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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,532	05/26/2005	Jolinde Machteld Van De Graaf	TS1214 US	7486

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EXAMINER	
VANOY, TIMOTHY C	
ART UNIT	**PAPER NUMBER**
1754	

MAIL DATE	DELIVERY MODE
08/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,532	VAN DE GRAAF, JOLINDE MACHTELD	
	Examiner	Art Unit	
	Timothy C. Vanoy	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *11 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *May 26, 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

a) Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. **It is important that the abstract not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract in this application exceeds 150 words and is (therefore) too long.

Claim Objections

a) In claim 11 lines 2 and 3, the phrase ". . . a crystalline molecular sieve is used, especially about 6 angstrom." is grammatically incorrect.

b) In claim 18 line 4, "of" should be replaced with --a--.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In claim 11, the term "especially" renders the claim vague and indefinite because preferences and examples are properly set forth in the specification rather than the claims: please see section 2173.05(d) in the MPEP.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,275,625 A to Taylor.

The Taylor application describes a method for treating a natural gas contaminated with hydrogen sulfide, organic sulfur compounds (i. e. carbonyl sulfide and up to 50 parts per million by volume of mercaptans) as well as carbon dioxide (please see pg. 1 lns. 1-12), comprising:

contacting the natural gas with an aqueous regenerable absorbent comprising alkanol amine (i. e. di-isopropyl amine or methyl diethanol amine) and a physical solvent such as sulfolane for the satisfactory removal of hydrogen sulfide and up to 95 volume percent of organic sulfur compounds (in particular, mercaptans): please see pg. 1 lns. 15-21 and also pg. 2 lns. 12-16;

passing the hydrogen sulfide and mercaptan-loaded absorbent into a regenerator, where the hydrogen sulfide and mercaptans are steam-stripped from the absorbent to produce a hydrogen sulfide and mercaptan-rich off-gas (which is passed to a sulfur recovery plant) and a lean, regenerated absorbent (which is passed back to the absorber): please see pg. 2 lns. 17-26;

passing the resulting natural gas through a first absorber (containing a suitable molecular sieve such as zeolite 5A or zeolite 13X: please see pg. 2 lns. 5-8) which removes the residual organic sulfur compounds out of the natural gas (while the first absorber is being used to remove the mercaptans out of the natural gas, a second absorber is being regenerated by passing a bleed stream of heated, purified gas

through the second absorber and then passing the resulting, loaded regeneration off-gas into the feed gas entering the amine scrubber), and

switching the flow of the resulting natural gas so that it flows through the second, regenerated absorber, while the first absorber is undergoing the same regeneration that the second absorber was subjected to (please see pg. 3 lns. 4-30).

The limitations set forth in the applicants' claims describing how much of the hydrogen sulfide, mercaptans, etc. are initially present in the untreated natural gas and how much of the hydrogen sulfide, mercaptans, etc. have been removed by the same process steps are noted, but it is submitted that the same natural gas is going to inherently contain the same hydrogen sulfide, mercaptans, etc. in the same quantities and that the same process for treating the natural gas is going to inherently remove the hydrogen sulfide, mercaptans, etc. to the same degree.

The limitations set forth in the applicants' independent claims describing the weight percentages of the same water, the same amine and the same physical solvent in the same absorbent solution are noted, but the courts have already determined that it is obvious to discover the optimum or workable ranges of such process parameters (to include concentrations or weight percentages) by routine experimentation when the general conditions of a claim are disclosed by the prior art: please note the discussion of the *In re Aller* 220 F.2d 454, 456, 105 USPQ 233,235 (CCPA 1955) court decision set forth in section 2144.05(II)(A) in the MPEP.

U. S. Pat. 3,490,865 disclosing the removal of carbon dioxide and carbonyl sulfide out of fluid hydrocarbon streams by passing the hydrocarbon stream through an absorption zone where the stream is contacted with an amine solvent for the removal of carbon dioxide, and then through a second absorption zone where the stream is passed through molecular sieve materials having a diameter of 10 to 13 angstroms for the removal of sulfur compounds (please see claim 1) is made of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Timothy C Vanoy
Primary Examiner
Art Unit 1754

tcv